



**NATIONAL  
WEATHER  
SERVICE**

# Spring 2023 Outlook: Perspective for the Lower Rio Grande Valley/Deep S. Texas Region

February 23, 2023

Barry Goldsmith, NWS Brownsville/Rio Grande Valley, Texas

**Dry and Warm/Hot Locking In; Drought and Wildfire Spread Concerns Loom Large**

Borrega Wildfire, March 30, 2022



Brooks Co. Dryness, mid January 2023



Starr Co. Drought, March 2022



"Hayfield" Fire on the Norias Division of the King Ranch, March 24/25, 2022



**NATIONAL WEATHER SERVICE**

Building a Weather-Ready Nation // 1

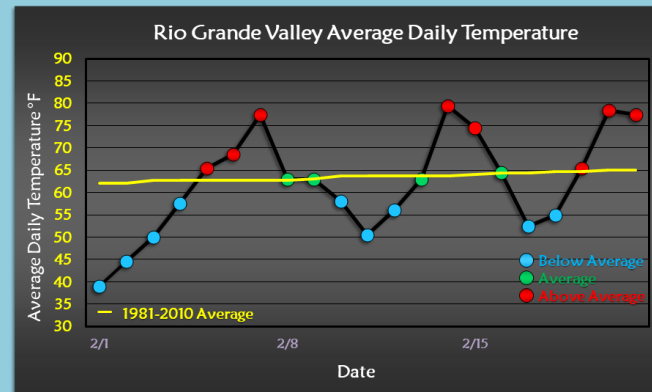
# Since February 1<sup>st</sup>...

- A chilly start, a warm finish (right)
- Dryness and drought continue to spread across the region, with severe drought covering most of the ranch country and D1 spreading across the populated Valley
- Falcon International Reservoir fell below 30 year lows for the Texas share of capacity (lower right)

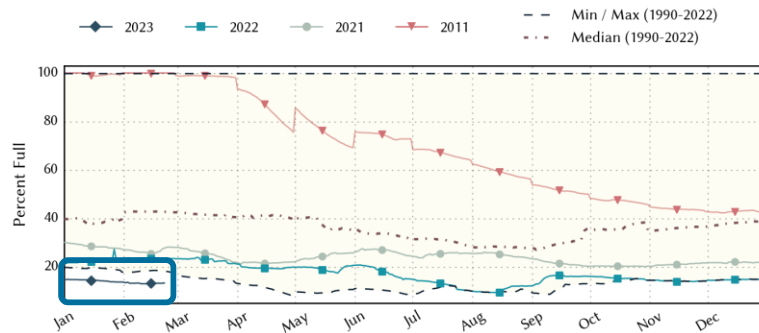


February 2023

NWS Brownsville/Rio Grande Valley



The Kibbe fire was a 177 initial attack fire that occurred Thursday, February 16<sup>th</sup> in southern Jim Wells County north of Falfurrias. Dormant, above normal grass loading combined with post frontal, elevated fire weather contributed to moderate fire behavior. Weather observations at the Falfurrias airport during the afternoon ranged from 60-65°F, RH of 17-22% and northerly winds of 17-21 mph with gusts of 25-30 mph. Photo credit: Carson Beard.



The “Kibbe” wildfire, just north of the Jim Wells/Brooks Co. line, on Feb. 16, 2023



NATIONAL WEATHER SERVICE

Building a Weather-Ready Nation // 4



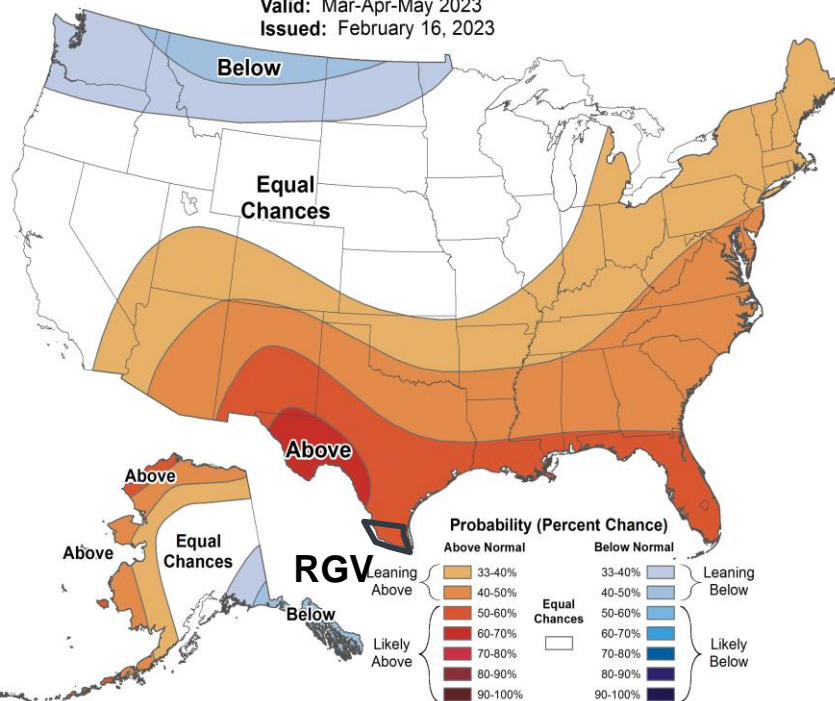
# Seasonal Forecast Spring 2023 - USA



## Seasonal Temperature Outlook



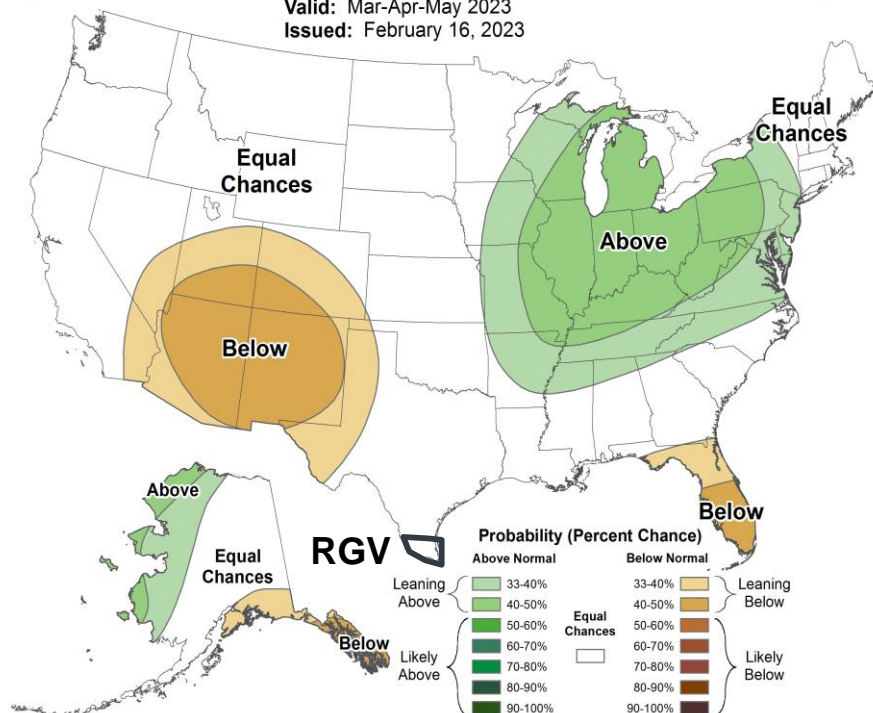
Valid: Mar-Apr-May 2023  
Issued: February 16, 2023



## Seasonal Precipitation Outlook



Valid: Mar-Apr-May 2023  
Issued: February 16, 2023



# Key Takeaways: Spring 2023



- **Above average temperatures**, and confidence for **below average rainfall (through April) continues...**

- **Confidence is high** on **warm and dry weather to dominate through April 2023**

- Breakdown:

- **Persistent Warmth** which began in April 2022 will continue through May 2023. Warmth is favored for the period, but there remains brief cold potential into mid March.
- Reservoir levels at Amistad and Falcon remain leveled off. Falcon began dropping slowly in early January and the falling levels will likely accelerate in March and April. Amistad began a slow fall in February. **Each will be at or below prior 30-year Texas-share lows through April. Water supply issues will remain a concern for many Valley locations in spring 2023.**
- The potential for **rapid wildfire growth will increase through March and likely into April**. In 2022, **more than 40,000 acres burned** in Brooks, Kenedy, Jim Hogg, Starr, and Hidalgo County. **Wildfire prevention actions** can reduce this number in 2023. **These actions are urgent and critical.**
- May is a “wild card” and helps explain the “equal chances” three-month probabilities for the season. **Organized thunderstorm “systems”** have occurred in many Mays; such systems would alleviate or potentially eliminate drought, but **also cause localized flash flooding**. The last two weeks are typically the time to watch for these events.
- If **May remains dry**, **drought conditions** will reach **level 3 (extreme)** and **4 (exceptional)**; worst level on the four-point scale) at some point. **Heat stress** is likely to become an issue.





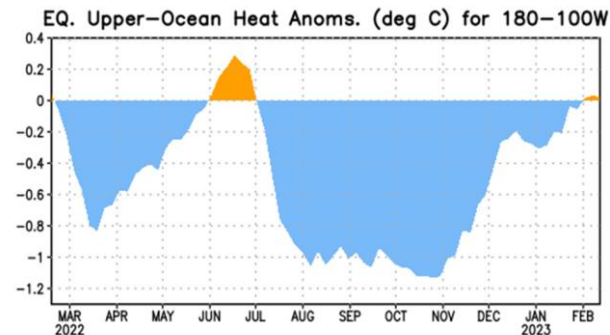
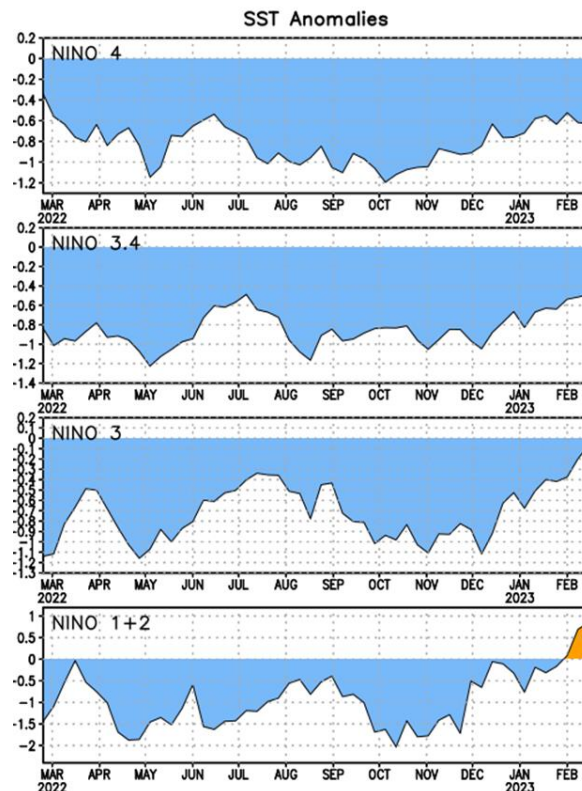
# The “Why” of the Forecast:

## El Niño/Southern Oscillation (ENSO) transition to neutral

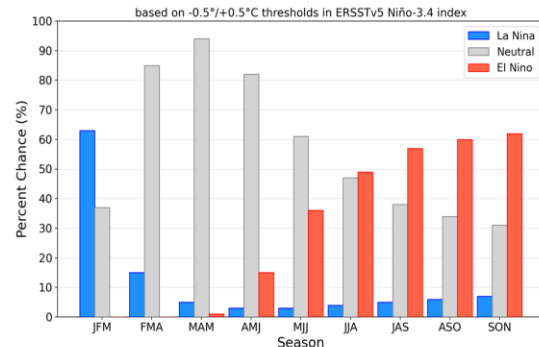
Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
2021	-1.0	-0.9	-0.8	-0.7	-0.5	-0.4	-0.4	-0.5	-0.7	-0.8	-1.0	-1.0
2022	-1.0	-0.9	-1.0	-1.1	-1.0	-0.9	-0.8	-0.9	-1.0	-1.0	-0.9	-0.8

- **La Niña** should fade to neutral in March or early April and continue neutral into early or mid summer
- The remnant La Niña combined with general atmospheric patterns and other “teleconnections” **leans toward warm and dry/drought conditions into at least mid spring**

\*Above right: Oceanic Niño Index. Values below -0.5 (light blue) indicate a 3-month La Niña episode. Current La Niña has reached 17 months as of Jan.

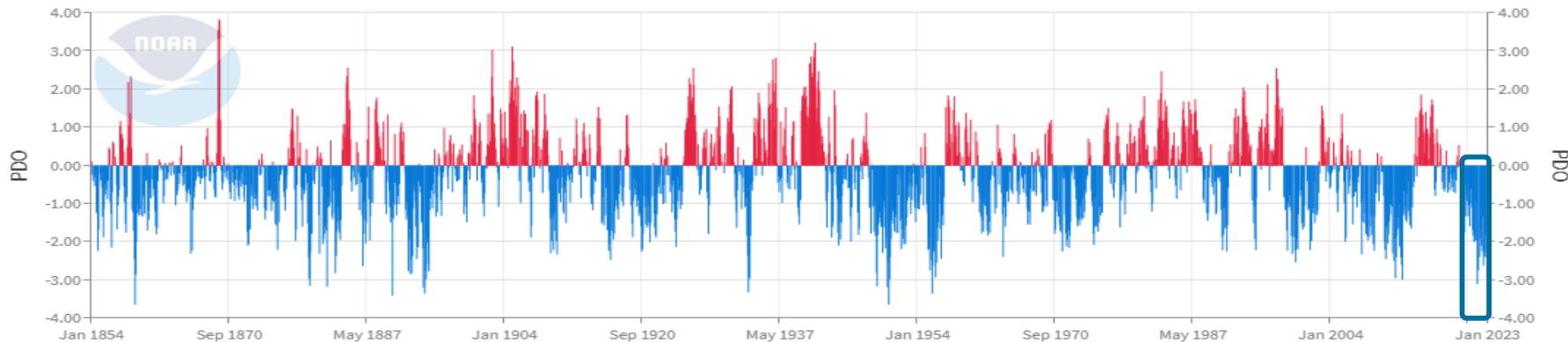


Official NOAA CPC ENSO Probabilities (issued Feb. 2023)



# The “Why” of the Forecast: Pacific Decadal Oscillation (PDO) in Sharp Negative Phase

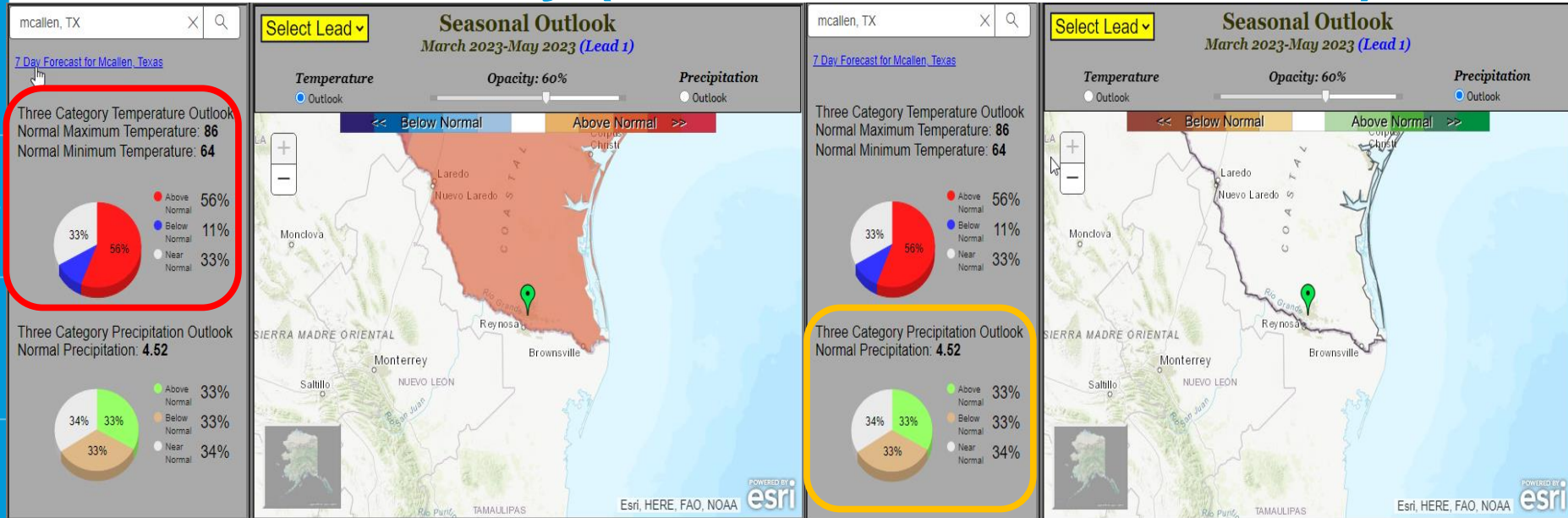
Pacific Decadal Oscillation (PDO)



Source: <https://www.ncei.noaa.gov/pub/data/cmb/ersst/v5/index/ersst.v5.pdo.dat>

- The 2021-2022 prolonged and strong negative PDO remains similar to that of late 2010 through 2011. Combined with the persistent La Niña – also very similar to that from late 2010-2011 (though 2011 was a bit stronger), **confidence remains high on warm spring** overall.
- The same PDO when combined with the last of the persistent La Niña, maintains confidence in a **drier than average March and April 2023**
- And, similar to 2011, 2021, and 2022, the potential for another cool/cold snap embedded within the warmer pattern **continues into mid March 2023**

# The Spring 2023 Outlook: Rio Grande Valley (McAllen as Anchor Point)

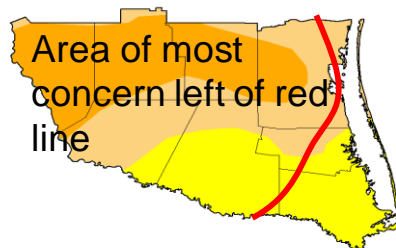
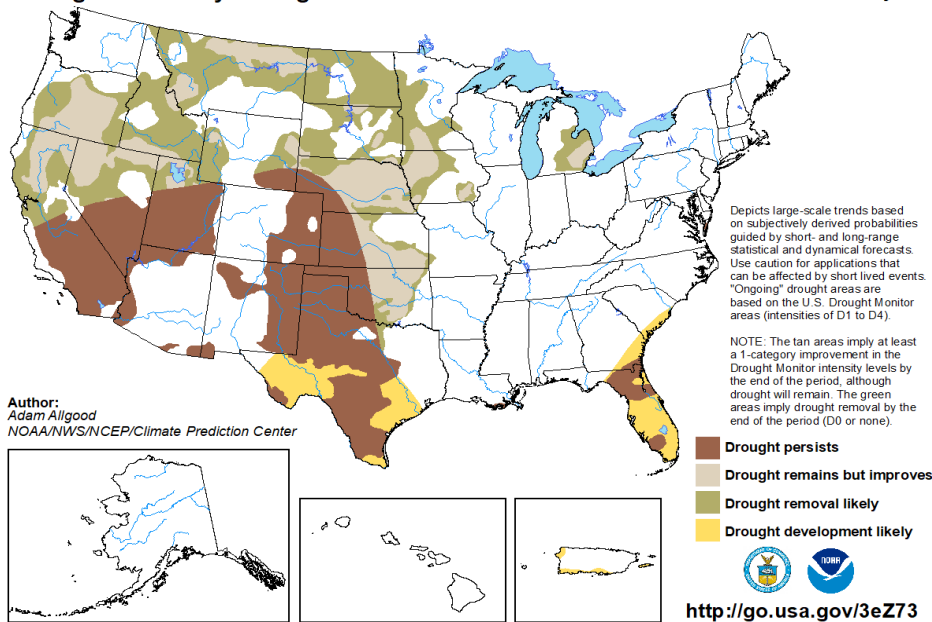


- Temperature: A **56 percent chance of above average**. An **11 percent chance for below** average: RGV averages: Afternoon – Around 80 at start of March, rising to the mid 90s by the end of May. Wake-up: Around 60 in early March, rising to the low to mid 70s by the end of May
- Precipitation: Equal Chances of Above, Below, or Average. RGV averages: 4 (west) to 7 (east) inches.

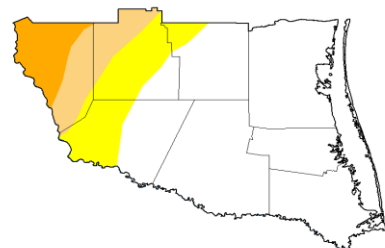
# The Spring 2023 "Droughtlook"

## U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for February 16 - May 31, 2023  
Released February 16



February 14, 2023



February 15, 2022

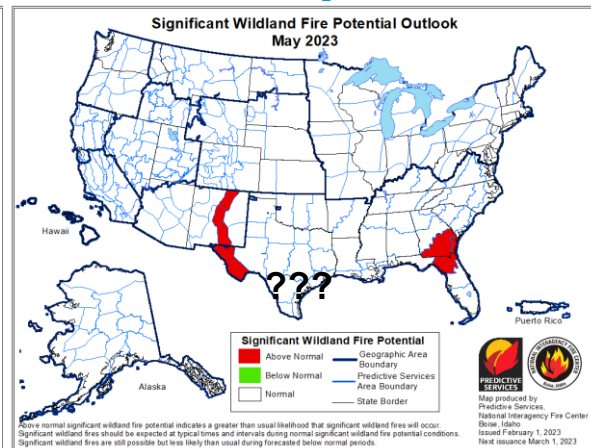
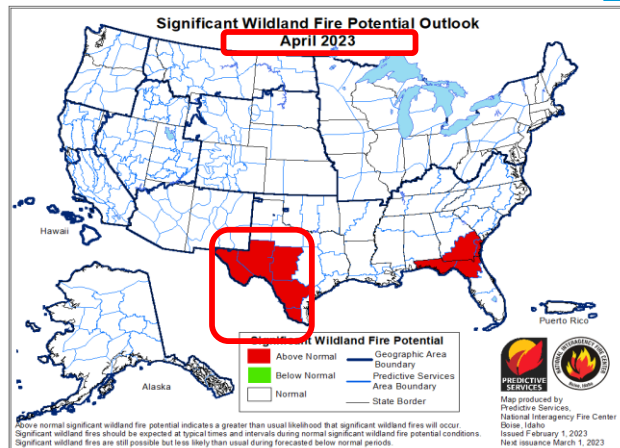
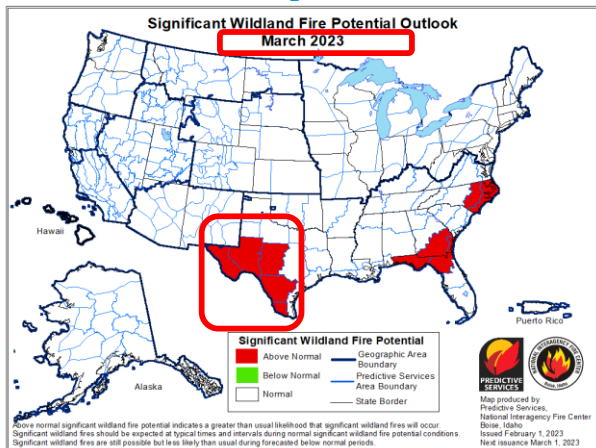
### Drought Classification



- **Drought spread and worsened across the northern ranchlands and into portions of the Rio Grande Valley** as dry and occasionally breezy weather returned after the first week of February. Cured grasses/brush remained "crisp" into February.
- **Extreme Drought (D3)** is likely by the end of February across much of the Brush/Coastal Plains. **Exceptional (D4) Drought** could arrive by early April across the Brush Country and Rio Grande Plains, with **Severe to Extreme levels** spreading into the populated RGW at the same time.



# Wildfire Spread Potential is Forecast through at least April 2023



- **2022 fuel loads remain abundant** across the Brush Country and Coastal Plains as of late February.
- **Cured rangeland and brush remains across** these areas, and all are likely to see drought levels increase to Level 3 (Extreme) or possibly Level 4 (Exceptional) in March and April.
- Those fuels will to **become further parched**, especially if “dry” fronts surge strong northwest winds and very low humidity across high growth areas, bringing **“flash drying”** in March or April.
- **May is a “wild card”**. Without significant wetting, the wildfire spread threat would continue.





# What Now?



- Promoting Wildfire PREVENTION is **huge** again this spring.
- We CAN reduce the acreage burned – but it **takes everyone**
- Focus on **farm, ranch workers,** and **other persons who might drive hot vehicles** on parched brush on critical/near-critical days



# Infographics for Wildfire Prevention

## Fire Weather SAFETY TIPS

- Be careful to not drag trailer chains that could cause sparks.
- Do not park on dry grass.
- Avoid outdoor burning and check recently burned piles for flare-ups.
- Clear out dead vegetation from around your home.
- Be careful when welding in dry grass.



## Consejos de Seguridad Contra Incendios

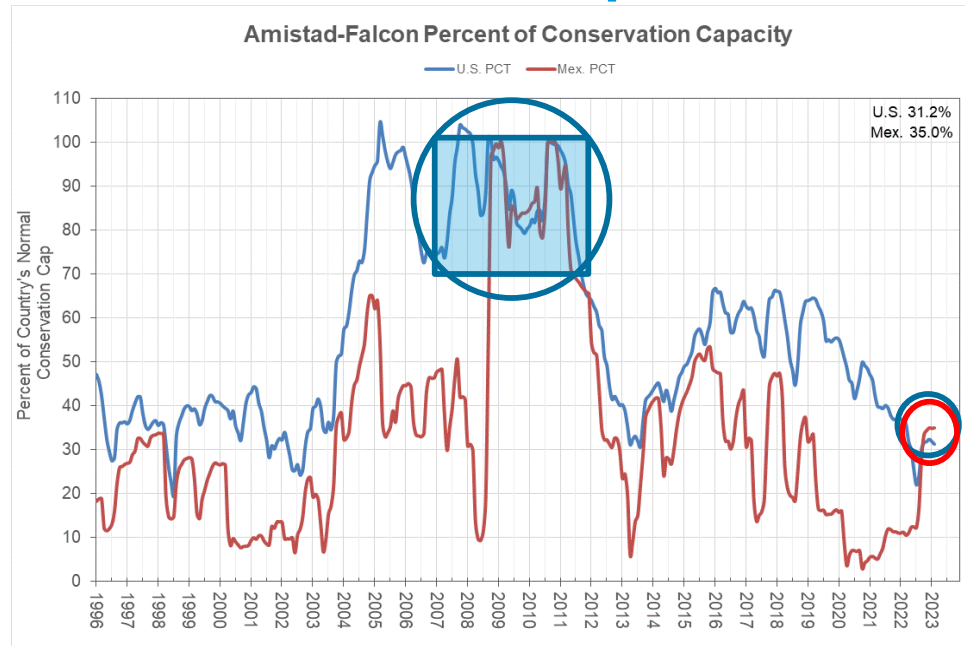
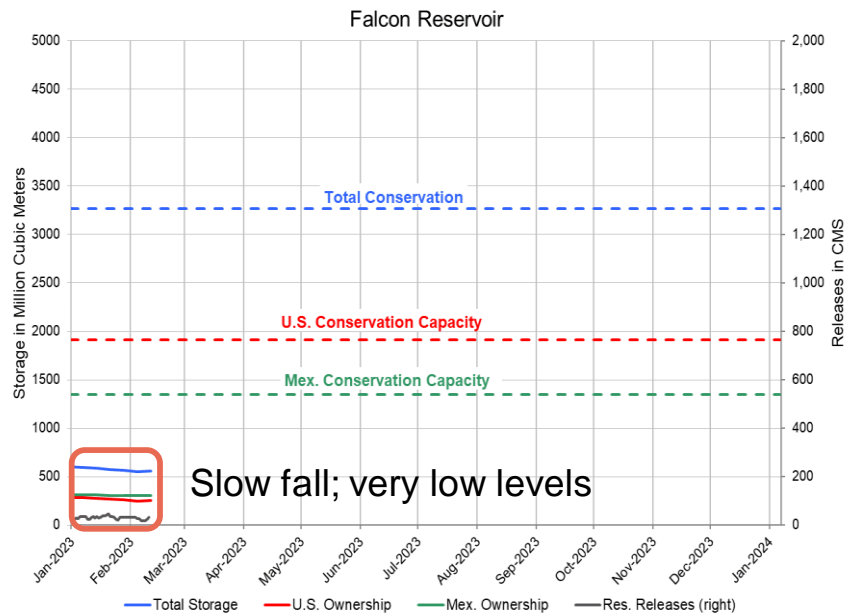
- Tenga cuidado de no arrastrar cadenas de remolque que podrían provocar chispas.
- No se estacione sobre césped seco.
- Evite las quemaduras al aire libre y revise las pilas recientemente quemadas para detectar brotes de fuego.
- Elimine la vegetación muerta alrededor de tu casa.
- Tenga cuidado soldar en hierba seca.



- ~50 in all (20 in Spanish)!
- Thanks to **Texas A&M Forest Service** for Many of These



# Falcon and Amistad Reservoir Slowly Falling; Both Reservoirs Likely to show an increasing fall rate in March and April



- Late February 2023 total capacity, Falcon Reservoir: **17.2 percent (down from 17.4 percent in late January)**. **Very low** relative to long term averages.
- Late February 2012 total capacity, Falcon Reservoir: **43 percent**

# March 2023: Confidence High on Dryness and Warmth



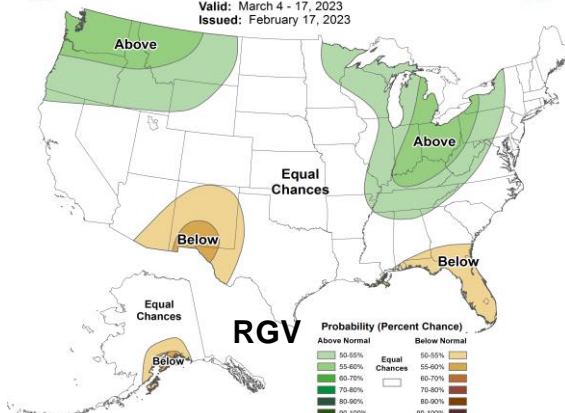
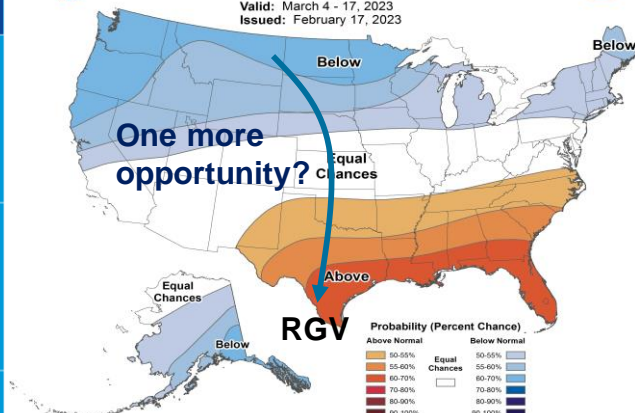
## Weeks 3-4 Temperature Outlook

Valid: March 4 - 17, 2023  
Issued: February 17, 2023



## Weeks 3-4 Precipitation Outlook

Valid: March 4 - 17, 2023  
Issued: February 17, 2023



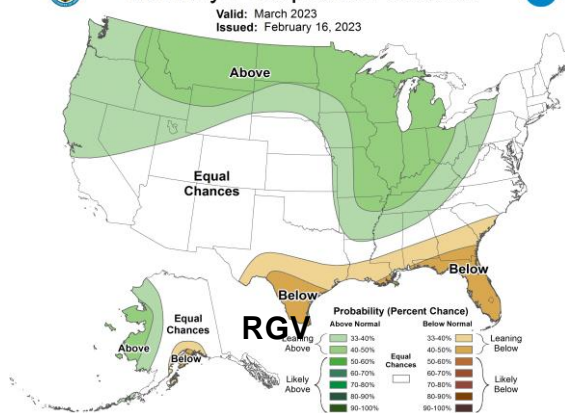
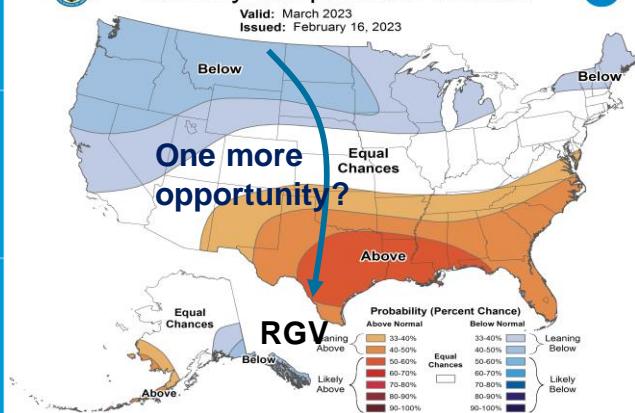
## Monthly Temperature Outlook

Valid: March 2023  
Issued: February 16, 2023



## Monthly Precipitation Outlook

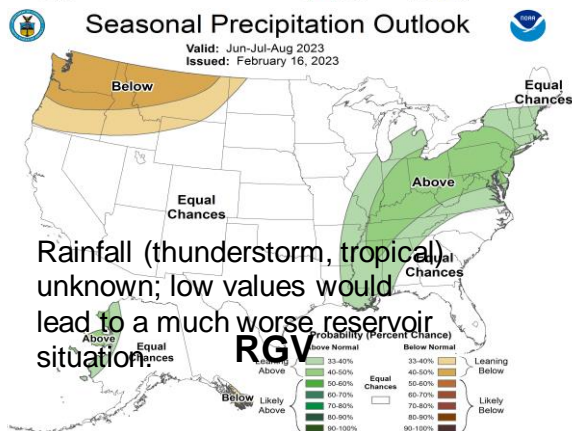
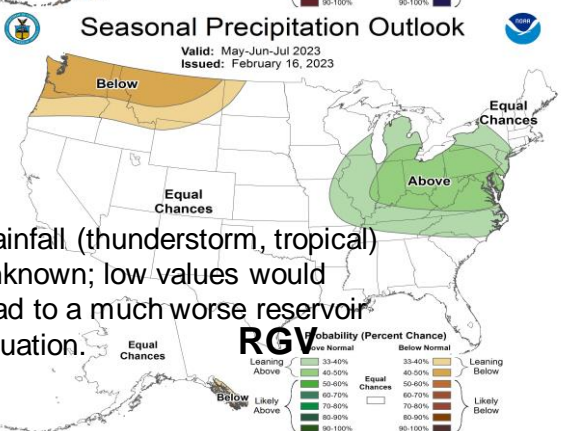
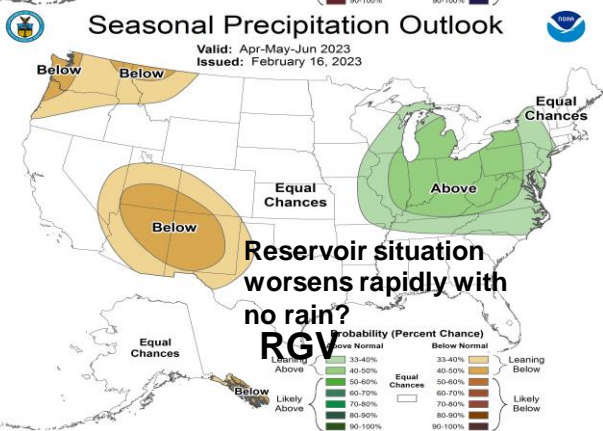
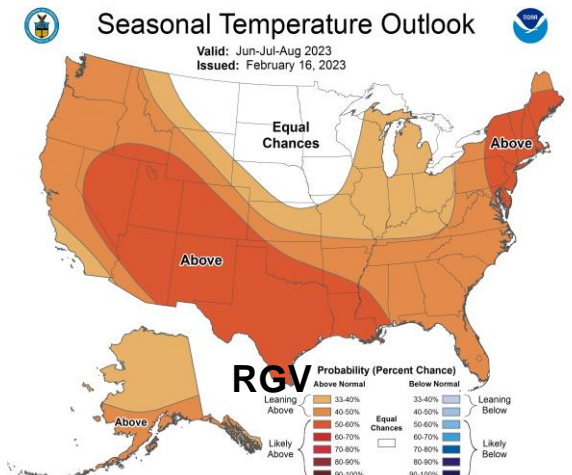
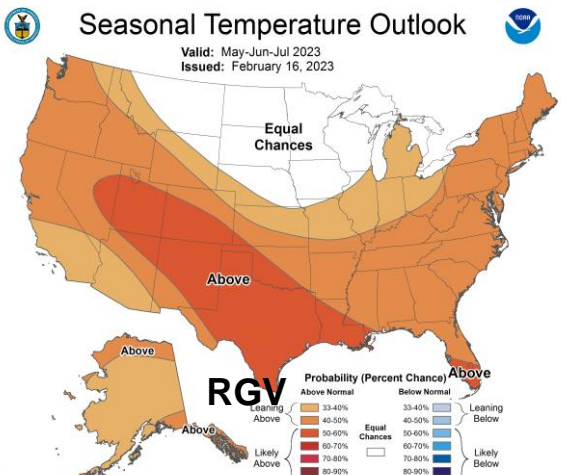
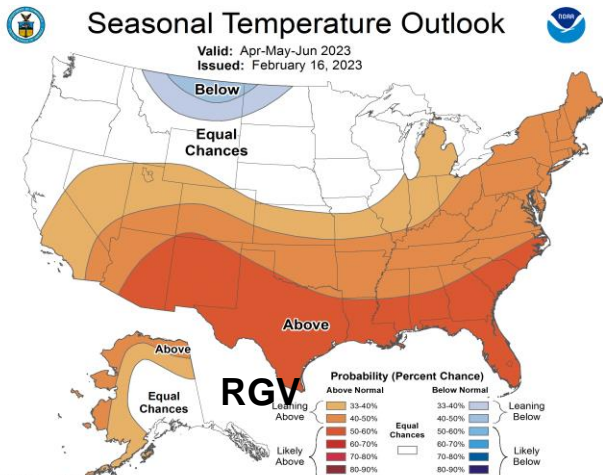
Valid: March 2023  
Issued: February 16, 2023



- **Bottom Line:** Warm and dry weather is expected, with occasional fronts providing some cooling in early March.
- **Beware the wild card, still:** Colder than average temperatures across the northern Plains could be a sign for one more strong front to “break the dam” and send some of that cold air surging into the southern Great Plains, including all of Texas. Such a front in early to mid March could bring near freezing temperatures (morning) for the Brush Country/Rio Grande Plains.



# Late Spring and Summer 2023 and Beyond: Hot and Leaning Dry with “Wild Cards”



Reservoir situation worsens rapidly with no rain?

Rainfall (thunderstorm, tropical) unknown; low values would lead to a much worse reservoir situation.

Rainfall (thunderstorm, tropical) unknown; low values would lead to a much worse reservoir situation.

# Bottom Lines

- The growth, thickness, and density of grasses and brush in autumn 2022 (in rural RGV areas) has largely been “freeze cured” from the Dec. 23-25, 2022 event and is now **“tinder/duff” for rapid-spread wildfires peaking in March** and perhaps continuing into **April**, based on the forecast. Wildfire prevention activities are **strongly urged**, and resources should be readied for deployment, just in case.
- **Drought** is likely to worsen in March through at least mid April. **Extreme (level 3 of 4)** to **Exceptional (level 4 of 4)** is now likely for most of the agricultural areas of the Valley/Brush Country/Rio Grande Plains before any possible improvement in May.
- Water storage levels at **Falcon and Amistad** continued a slow fall in February, and will fall more rapidly by late March and April. The **combined share of water in Amistad and Falcon is likely to remain low to very low** headed into the spring growing season. Water conservation, smart irrigation, and rainwater harvesting are important actions through mid spring.
- One more **strong cold front** – dropping “feels like” temperatures between 25 and 40 degrees –is possible between March 5-15. Four have occurred so far (mid November, mid December, December 22/23, January 30-Feb 3. Residents should keep **winter wardrobes** ready/updated and ensure **heating systems** are in proper working order.